4.12 DEPARTMENT OF MATHEMATICS

4.12.1 Introduction

The Department of Mathematics was established in 1959 along with the Institute. It offers M.Sc. programme in Mathematics, M. Tech. program in Industrial Mathematics and Scientific Computing [IMSC] and Ph.D. programme. In addition, the Department has taken the responsibility of teaching Mathematics courses to B.Tech., M. Tech. (other than IMSC), Dual Degree in ED, M.Sc. and Ph.D students of the Institute. The department has also signed a MoU for an Exchange Programme with TU Kaiserslautern under the DAAD Exchange Programme Network for 5 years beginning from 2009.

The major areas of research of the department are:

1. Algebra and its applications
2. Applied Probability
3. Approximation Theory
4. Computational Fluid Dynamics
5. Continuum Mechanics
6. Coding Theory
7. Complex Analysis
8. Data Networks
9. Differential Equations
10. Inverse and Ill- Posed problems
11. Fluid Mechanics
12. Functional Analysis
13. Fuzzy Sets and Systems
14. Graph Theory and Combinatorics
15 Harmonic Analysis
16. Inventory and Reliability
17. Mathematical logic & Applications
18. Mathematical Modeling
19. Mathematical Physics
20. Nonlinear Analysis
21. Numerical Analysis
22. Operations Research
23. Operator Theory
24. Queuing Theory
25. Special Functions
26. Statistical Quality Control
27. Stochastic Processes and their applications
28. Theoretical Computer Science
29. Wavelets and their applications
30. Algebraic Geometry
31. Fractal Geometry and its applications
32. Commutative Algebra

4.12.2 Academic Programmes:

New Courses Introduced:

S.No.	Course No.	Title
1.	MA 6312	Mathematical Theory of Games
2.	MA 7011	Advanced Topics in Commutative Algebra
3.	MA 7012	Abstract Harmonic Analysis
4.	MA 7013	Fourier Analysis and Euclidean Spaces
5.	MA 7014	Riemann Surfaces and Algebraic Curves

Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year & Others	Total
M.Sc.	43	46	3	-	-	92
M.Tech.	9	8	2	-	-	19
Ph.D.	15	8	8	8	4	43
Total	67	62	13	8	4	154

Names of Students/Scholars attended Conferences/Seminars and Symposia abroad/India:

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar/ Symposia	Venue and Date
Conference/Symposium:				
1.	Mr. G. Krishna Kumar	MA07D005	International Workshop on Operator Theory and Application-2011	Lisbon July 1-13, 2011
2.	Mr. Sankararaju Kosuru	MA07D004	International Conference on Nonlinear operators and Differential equations and applications in Babes-Bolyai	University of Cluj-Napoca, Romania July 5 -8, 2011

3.	Mr. G. Krishna Kumar	MA07D005	International Conference on Directions on Matrix Theory 2011	University of Coimbra, Portugal July 9-10, 2011
4.	Mr. Sankararaju Kosuru	MA07D004	International Conference on Multivalued Analysis and Topology	Varenna, Italy July 18-22, 2011
5.	Mr.G. Sanakararaju Kosuru	MA07D004	International Conference on Analysis and its Applications and Training programme on Nonlinear Analysis with applications to options	Aligarh Muslim University, Aligarh Nov. 16-21, 2011
6.	Mr. Chirala Satyanarayana	MA08D013	Recent Trends in PDE and applications	University of Hyderabad Mar. 17-20, 2012
7.	Mr. Sukhendra Ghosh	MA11D021	Recent Trends in PDE and applications	University of Hyderabad Mar. 17-20, 2012
8.	Mr. Tanmay Sarkar	MA09D006	Recent Trends in PDE and applications	University of Hyderabad Mar. 17-20, 2012
9.	Mr. Anjalaiah	MA09D010	Recent Trends in PDE and applications	University of Hyderabad Mar. 17-20, 2012
Workshop:				
1.	Mr. S. Rajesh	MA10D009	Functional Analysis and Harmonic Analysis	Kerala School of Mathematics, Kozhikode May 31-June 10, 2011
2.	Mr. D. Vekatesh	MA11D010	Functional Analysis and Harmonic Analysis	Kerala School of Mathematics, Kozhikode May 31-June 10, 2011
3.	Mr. Sushobhan Mazumdar	MA10D010	ATM workshop in Commutative Algebra	IIT Bombay June 29-July 14, 2011
4.	Ms. Saritha Viswanadhan	MA08D001	ATM workshop in Commutative Algebra	IIT Bombay July 1-12, 2011
5.	Mr. R. Balakrishnan	MA10D012	ATM workshop in Commutative Algebra	IIT Bombay July 1-12, 2011
6.	Mr. Sushobhan Mazumdar	MA10D010	ATM workshop in Lie Groups and Lie Algebras	HRI, Allahabad July 19-22, 2011
7.	Mr. Susobhan Mazumadar	MA10D010	Advanced Training in Mathematics schools	CMI Chennai Dec.13, 2011
8.	Mr. Ramanababu Kaligatla	MA08D012	AIS Mechanics (2011), School of Mathematics and Computer/Information Sciences	Univ. of Hyderabad Dec.5-24, 2011
9.	Mr. Saswata Adhikari	MA11D016	Twelfth Discussion meeting in Harmonic Analysis	ISI, Kolkata, Dec. 25-30, 2011
10.	Mr. J. Mahipal	MA10D005	School and Workshop on Co-compact embeddings, profile, decompositions and their applications to PDF at TIFR CAM centre, Bangalore	Jan 3 -12, 2012
11.	Mr. Susobhan Mazumdar	MA10D010	ATM Workshop in Computational Commutative Algebra and Algebraic Geometry	NIIT Neemrana, Rajasthan Jan. 13-30, 2012
12.	Mr. R. Balakrishnan	MA10D012	ATM Workshop in Computational Commutative Algebra and Algebraic Geometry	NIIT Neemrana, Rajasthan Jan. 13-30, 2012
Instructional School:				
1.	Mr. D. Venkatesh	MA11D008	AIS on Functional Analysis	ISI Kolkata July 1-25, 2011
2.	Mr. M. Rajesh Kannan	MA08D007	AIS on Functional Analysis	ISI Kolkata July 1-25, 2011
3.	Mr. S. Rajesh	MA10D009	AIS Workshop of Geometry on Numerical Linear Algebra	ISI Kolkata July 1-25, 2011
4.	Mr. M. Ravi Babu	MA11D001	ISI Kolkata	July 4-24, 2011

5.	Mr. Susobhan Mazumdar	MA10D010	Advanced Instructional school on Geometry and Topology	IIT Bombay Feb. 20-28, 2012
Summer/Winter School:				
1.	Ms. Ankita Sharma	MA10D002	2nd Winter School on Control and Dynamic Systems	IIT Bombay Jan 13-22, 2012
2.	Mr. K. Ramana Babu	MA08D012	Advanced Instructional School on Mechanics	Univ. of Hyderabad Dec. 2011
Short Course: / Science Meet				
1.	Ms. Shani Jose	MA08D004	Women in Technology and Science Meet 2011	GE Global Research Bangalore Nov. 24-25, 2011
2.	Ms. Safina Devi	MA09D001	Women in Technology and Science Meet 2011	GE Global Research Bangalore Nov. 24-25, 2011
3.	Ms. Ankita Sharma	MA10D002	Women in Technology and Science Meet 2011	GE Global Research Bangalore Nov. 24-25, 2011
Research work/Lectures:				
1.	Mr. S. Rajesh	MA10D009	Lecture series in Geometry of Banach Spaces by Prof Godefroy	Pondichery University Jan 10-20, 2012
2.	Mr. Rajesh Kannan	MA08D007	Lecture series in Geometry of Banach Spaces by Prof Godefroy	Pondichery University Jan 10-20, 2012

Names of students/scholars who won outside prizes and awards:

Sl.No	Name of the Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1.	Mr. Chandra Shekar Nishad	MA10M001	DAAD Sandwich System for Masters' students for 2011-12	DAAD, Germany
2.	Mr.Shyam Bansal	MA10M009	DAAD Sandwich System for Masters' students for 2011-12	DAAD, Germany

Institute Day Prize

Sl.No	Name of the Student/Scholar	Roll No.	Name of Prizes
1.	Chandra Shekar Nishad	MA10M001	Institute Merit Prize
2.	Arundhathi Krishnan	MA10C008	Institute Merit Prize
3.	Arundhathi Krishnan	MA10C008	LVKV Sarma Prize
4.	Chandra Shekar Nishad	MA10M001	LVKV Sarma Prize
5.	Arundhathi Krishnan	MA10C008	Swathi / Jayalakshmi Memorial Award

4.12.3 Faculty and their Activities

Faculty:

Name & Qualifications	**Major area of specialization (only 3 areas)**
Professors:	
Arindama Singh, Ph.D. (IIT Kanpur)	Logic, Numerical Analysis
Choudum. S.A., Ph.D. (IIT Madras)	Discrete Mathematics, Combinatorics, Graph Theory
Kalpakam S, Ph.D. (IIT Madras)	Applied Probability and Stochastic Processes, Operations Research
Kamath. S.G., Ph.D. (Delhi University)	Mathematical Physics
Kulkarni. S.H. **[Head]**, Ph.D. (IIT Bombay)	Functional Analysis and Numerical Analysis
Parthasarathy P.R, Ph.D. (Annamalai)	Applied Probability and Stochastic Models, Mathematical Ecology, Operations Research

Ponnusamy. S, Ph.D. (IIT Kanpur)	Complex Analysis, Function Spaces, Special functions and Conformal Geometry
Rama. R, Ph,D. (Anna University)	Formal Language & Automata Theory / Molecular computing
Sanyasiraju Y.V.S.S., Ph.D. (IIT Madras)	Computational Fluid Dynamics
Satyajit Roy, Ph.D. (IISc. Bangalore)	Convective Heat and Mass Transfer, Computational Fluid Dynamics
Subrahmanyam. P.V., Ph.D. (IIT Madras)	Non-linear Analysis- Fixed point Theory & Functional Equation, Fuzzy sets, Summability Theory
Sundar. S, Ph.D. (IIT Madras)	Computational Fluid Dynamics, Numerical Analysis for Partial Differential Equations, Mathematical Modeling
Thamban Nair M., Ph.D. (IIT Bombay)	Applicable Functional Analysis –Spectral Approximation, Operator Equations, Inverse and Ill-posed Equations
Usha R, Ph.D. (IIT Madras)	Fluid Dynamics
Veeramani. P, Ph.D. (IIT Bombay)	Fixed Point Theorems and their Applications to Problems in Optimization and Best Approximation, Fuzzy Set Theory
Vetrivel. V, Ph.D. (IIT Madras)	Non-Smooth Optimization, Fixed Point Theory, Complementarity problems

Associate Professors:

Radha. R, Ph.D. (IMSC Chennai)	Harmonic Analysis, Wavelets, Time-Frequency Analysis
Sivakumar K.C, Ph.D. (IIT Madras)	Functional Analysis and Mathematical Programming
Srinivasa Rao Ch., Ph.D. (IISc. Bangalore)	Non-linear Differential Equations
Swaminathan.K, Ph.D. (Agra University)	Fluid Dynamics, Ship Hydrodynamics, Mathematical Problems related to Naval Architecture and Ocean Engineering

Assistant Professors:

Amitava Mukherjee, Ph.D. (Univ. of Calcutta)	Statistical Inference, Statistical Quality Control, Geostatistics, Nonparametric Methods , Sequential Analysis
Arijit Dey	Algebraic Geometry
Balaji.R, Ph.D. (IIT Madras)	Linear Algebra and Optimization
Chand A.K. B., Ph.D. (IIT Kanpur)	Fractals, Approximation Theory and Wavelets
Jayanthan A.V., Ph.D. (IIT Bombay)	Commutative Algebra and Algebraic Combinatorics
Kalpana Mahalingam, Ph.D. (Univ. of South Florida, Tampa)	Theory of codes, DNA Computing, Combinatorics of words
Manam. S R , Ph.D. (IISc Bangalore)	Applied Mathematics
Shaiju A.J., Ph.D. (Iisc Bangalore)	Game Theory, Systems and Control Theory
Shruti Dubey, Ph.D. (IIT Kanpur)	Nonlinear Analysis of Functional differential equations, Mathematical Study of Ferromagnetic systems
Sounaka Mishra, I.S.I. Kokkota	Discrete Mathematics, Approximation Algorithm , Combinatorial Optimization

Uma V, Ph.D. (IMSC Chennai)	Topology and Geometry of Toric Varieties and Related Spaces
Vasantha W.B., Ph.D. (RIASM Chennai)	Group Theory, Application of Algebra, Fuzzy Algebra and Linear Algebra
Venkata Balaji T.E., Ph.D. (CMI, Chennai)	Algebraic Geometry and Commutative Algebra

Visiting Faculty

P.N. Natarajan, Ph.D. (8.7.2011 to 7.8.2011)	Non Archimedean Analysis
N. Sivakumar, Ph.D. (3.01.2011 to 5.8.2011)	Approximation Theory
Sudarshan Tiwari, Ph.D. (03.10.2011 to 02.11.2011)	CFD

PDF (IITM) :

Dr. Ritesh Kumar Dubey (till March 2012)	CFD

Short-term Courses/ Workshops/ Seminars/ Symposia /Conferences organized by the faculty members:

Sl. No.	Coordinator(s)	Title	Period
Conference:			
1.	Y.V.S.S.Sanyasiraju	National Symposium on Mathematical Methods and Applications	Dec. 22, 2011
Seminar:			
2.	T. E. Venkata Balaji	Talks and Interaction by Prof. Shreeram Abhyankar, Purdue University, USA	Jan. 3-5, 2012
Symposia:			
3.	T.E. Venkata Balaji	Riemann Surfaces and Algebraic Curves (35 lectures for M.S.c / B.Tech./Ph.D. students under NPTEL support)	Oct, Nov. 2011 and Jan to Mar. 2012
Short term Course:			
4.	Y.V.S.S.Sanyasiraju	A level 2 short term course on Computational Fluid Dynamics to College Teachers	May 17-31, 2011

Short-term Courses/ Workshops/ Seminars/ Symposia/ Conferences/ Training attended by the faculty members in Academic institutions and Public Sector Undertakings:

Sl. No.	Name of faculty	Title	Institution	Period
Workshop:				
1.	S. Ponnusamy	Four lectures 1) On harmonic mappings 2) Invitation to univalent functions, etc.	Universiti Kebangsaan Malaysia, Malaysia.	June 4, 2011
2.	K.C. Sivakumar	Workshop for presentation o Directions in Matrix Theory 2011	Univ. of Coimbra, Portugal	July 9-10, 2011
3.	Ch. Srinivasa Rao	Workshop on Recent Trends in PDE and applications	University of Hyderbad	Mar. 18-19, 2012
4.	S. Sundar	International Workshop on Population Balance Equation	Fraunhofer Institute of Industrial Mathematics, Kaiserslautern, Germany	Sep.27 – 30, 2011
5.	S. Sundar	Mathematics for Mechanical and Electrical Engineers	PSG, Coimbatore	Mar. 2-3, 2012
6.	S. Sundar	Freie University Berlin- DAAD Alumni Workshop	IIC, New Delhi	Nov.12, 2011
7.	T.E. Venkata Balaji	Algebraic Geometry Workshop	IISER, Trivandrum	March 12, 2012

Seminar:				
1.	S.H. Kulkarni	Completeness and invertibility	NSS Hindu College, Kerala	March 26, 2011
2.	S. Ponnusamy	Series of Research lectures on Harmonic Mappings	Dept. of Maths., Universiti Sains Malaysia (Malaysia).	Jan-July, 2011
3.	S. Ponnusamy	Harmonic and quasiconformal mappings	University of Malaya, Malaysia.	May 2011
4.	S. Ponnusamy	Landau-Bloch Theorems and fully starlikeness of harmonic mappings	University of Helsinki, Finland.	Nov., 2011
5.	S. Ponnusamy	UGC Sponsored National seminar on Complex Analysis and Applications	BJM Govt. College, Chavara, Kerala	Feb. 15, 2012
6.	S. Ponnusamy	National Seminar on Recent developments in Complex Analysis and Related areas and JMS meet	University of Jammu	Feb. 24-25, 2012
7.	Y.V.S.S. Sanyasi Raju	National seminar on Recent advances in Mathematics and its applications	S.P. Mahila Viswavidyalayam, Tirupati	Mar. 2, 2012
8.	A.J.Shaiju	Evolutionary stability in 2 x 2 symmetric games	International conference on game theory, operations research and applications, ISI Chennai	5-7, Jan 2012
9.	A.J. Shaiju	National seminar on Analysis at Government College	Kasaragod, Kerala	Feb. 24, 2012
10.	Ch. Srinivasa Rao	National Seminar on Algebra & Analysis	Vijayawada	Feb. 28-29, 2012
11.	M. Thamban Nair	Regularization of ill-posed integral equations using Nustrom approximation	Sun Yat-sen University, Guangzhou, China	May 9, 2011
12.	M. Thamban Nair	On Morozou's discrepancy principle for nonlinear ill-posed equations	Sun Yat-sen University, Guangzhou, China	May13, 2011
13.	M.Thamban Nair	Quadrature based collocation methods for integral equations of the first kind at Institute of Geology and Geophysics	Chinese Academy of Sciences, Beijing, China	June 3, 2011
14.	M.Thamban Nair	Use of functional analysis in solving equations, - Symposium on Modern Analysis and Application	NSS Hindu College, Kerala	March 26, 2011
Symposia:				
15.	S. Sundar	Indo-UK Symposium on Recent Advances in Industrial and Applied Mathematics	IIT Bombay	Nov. 5-6, 2011
16.	M. Thamban Nair	Ill-Posedness and regularization of inverse problems – Indo UK symposium	IIT Bombay	Nov. 5-6, 2011
17.	M. Thamban Nair	An interplay between Numerical and Functional Analysis – Symposium on Foundations of Analysis	PSMO College, Thiruoorangadi Keral	Nov.23-24, 2011
18.	R.Usha	4th International Symposium on Bifurcations and Instabilities in Fluid Dynamics (BIFD 2011)	Barcelona, Spain	July 18-21, 2011
Conference:				
1.	Amitava Mukherjee	International Statistics Conference 2011	Colombo, Sri Lanka	Dec. 28-30, 2011
2.	Arijit Dey	International Conference on Principal G-Bundles UCMAT	Madrid, Spain	Sep.12-16, 2011
3.	Arijit Dey	International Conference on Commutative Algebra and Algebraic Geometry (CAAG 2012)	Pondichery University	Mar. 5-9, 2012

4.	Arijit Dey	International conference on Complex Analytic Geometry	Tata Institute of Fundamental Research, Mumbai	Mar. 26-30, 2012
5.	A.K.B. Chand	Annual International conference on Computational Mathematics, Computational Goemetry and Statistics	Singapore	Jan. 30-31, 2012
6.	P.R. Parthasarathy	Ramanugam Theta Functions and Birth and Death processes, Validictory address	IIT Madras	Dec. 22, 2011
7.	S. Ponnusamy	21st Annual Conference of the Jammu Math. Soc. and a National Seminar on Analysis and its Applications	Department of Mathematics, University of Jammu.	Feb 25 – 27, 2011.
8.	Satyajit Roy	International Conference on Fluid Dynamics and its applications	BNMIT Bangaore	July 20-21, 2011
9.	A.J.Shaiju	Evolutionary stability in 2 x 2 symmetric games	International conference on game theory, operations research and applications, ISI Chennai	Jan. 5-7, 2012
10.	Shruti Dubey	Control and Stability of One Dimensional Ferromagnetic System	Indian Institute of Technology, Roorkee	Dec. 5 – 7, 2011
11.	K.C. Sivakumar	International Conference MATTRIAD 2011	Tomar, Portugal	July 12-16, 2011
12.	K.C. Sivakumar	International Linear Algebra Society Conference ILAS	Germany T U Braunschweig	Aug.22-26, 2011
13.	P.V. Subrahmanyam	Summer Conference on General Topology and its applications	New York, U.S.A.	July 25-29, 2011
14.	S. Sundar	New Frontiers: Shifting trends in the global research landscape and impact on researchers' career patterns Research in Germany	New Delhi	Mar. 29-31,2012
15.	K. Swaminathan	International workshop on Computational and Applied Mathematics (CAM)	University of KwaZulu-Natal, Pietermaritzburg, South Africa	Sep.26-30, 2011
16.	M. Thamban Nair	8th International Congress of the ISAAC	Russia, Moscow	Aug.22-27, 2011
17.	M. Thamban Nair	How may? How large? – Understanding infinity, Inspire Programm	SSN College of Engg. Kalavakkm	Jan. 20, 2012
18.	M. Thamban Nair	8th Congress of ISAAC	Friendship Univ. Moscow	Aug. 22-27, 2011
19.	R. Usha	International Symposium on Bifurcations and Instabilities in Fluid Dynamics	Barcelona, Spain	July 18-22, 2011
20.	P. Veeramani	International Conference on Nonlinear Operations, Differential Equations and Applications (ICNODEA 2011)	Cluj-Napoca, Romania	July 5-8, 2011
21.	P. Veeramani	International Conference on Multi-valued Analysis and Topology	Varenna, Italy	July 18-22, 2011
22.	P. Veeramani	National Conference on Mathematical Analysis and applications	ZB Patil College, Deopur, Dhule Mahrashtra	Nov. 28-30, 2011
23.	P. Veeramani	14th International Conference of International academy of Physical Sciences (CONIAPS XIV)		Dec. 22-24, 2011
24.	V. Vetrivel	International workshop on Computational and Applied Mathematics (CAM)	University of KwaZulu-Natal, Pietermaritzburg, South Africa	Sep.26-30, 2011

25.	T.E. Venkata Balaji	International conference in Honour of Prof. C.S. Seshadri's 80th Birthday	CMI, Chennai	Jan. 23-27, 2012
26.	T.E. Venkata Balaji	CAAG International Conference 2012	Pondicherry University	Mar. 5-7, 2012
Short term Course:				
1.	S. Ponnusamy	Analysis Seminar Series (Three months lecture Series)	Dept. of Maths., Univ. Turku (Finland)	July-Oct, 2011
2.	S. Ponnusamy	Analysis Seminar Series (Two months lecture series)	Dept. of Maths., University of Aalto (Finland)	Nov.-Dec., 2011

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	A. V. Jayanthan	Regularity & Gorensteinness of Fiber cones	University of Missouri-Columbia	Sep. 9, 2011
2.	A. V. Jayanthan	Periodic occurrence of complete intersection monomial curves	University of Missouri-Columbia	Sep. 9, 2011
3.	S. H. Kulkarni	Generalized inverses and approximation numbers (Invited talk at the International Conference on Combinatorial Matrix Theory and Generalized Inverses of Matrices)	Department of Statistics, Manipal University, Manipal, Karnataka.	Jan 11, 2012
4.	P.R. Parthasarathy	STTP course on biomedical systems, signals, visuals and images	IIT Madras	Feb. 7, 2012
5.	P.R. Parthasarathy	Bulk Queues – Quencing Theory and its application,	SKR Engg. College Chennai	Jun, 24, 2011
6.	P.R. Parthasarathy	Continued Fraction, DST Inspire programme	Sri Venkateswaa Univ. Thirupathi	Dec.11, 2012
7.	P.R. Parthasarathy	Applied Birth death Processes, DST Inspire Programme		
8.	P.R. Parthasarathy	Birth and Death Processes, Dr. R. Balakrishnan Endowment Lecture	Bharathidasan Unv. Tiruchirapalli	Oct. 21, 2011
9.	P.R. Parthasarathy	Statistics for water science, oversears training programme on Water, Quality National Instrument for Teacher training and research	Chennai	Aug. 29, 2011
10.	P.R. Parthasarathy	Data Analysis Water, Quality National Instrument for Teacher training and research	Chennai	Aug, 30. 2011
11.	S. Ponnusamy	DST, INSPIRE internship Programme	Department of Geology, University of Madras	Feb. 4,2012
12.	S Ponnusamy	DST, INSPIRE internship Programme	Sri padmavati Mahila university, Tirupati.	Mar 29, 2012
13.	S. Ponnusamy	Dirichlet problems via Conformal mappings	Gandhigram Rural University	Mar. 16-18, 2012
14.	Y.V.S.S. Sanyasiraju	Incompressible Flow Computations with an Exponential Compact Higher Order Scheme	Periyar University	Mar. 29-30, 2012
15.	Y.V.S.S. Sanyasiraju	RBF Based Grid Free Schemes for Coupled Non-Linear PDE	Bharathiyar University, Coimbatore	Mar. 27, 2012
16.	Y.V.S.S. Sanyasiraju	RBF Based Grid Free Schemes	Sri Padmavati Mahila University Tirupati	Mar 2, 2012
17.	Y.V.S.S. Sanyasiraju	Development of Exponential Compact Higher Order (ECHO) schemes	NIT Warangal	Jan 27-30, 2012

18.	Y.V.S.S. Sanyasiraju	Scientific Computing with Matlab	MS College of Arts & Science, Chennai	Dec. 15,2011
19.	Y.V.S.S. Sanyasiraju	Characteristic Analysis of ECHO schemes	Khammam	Dec. 9-11, 2011
20.	Y.V.S.S. Sanyasiraju	Local Rbf Grid-Free Scheme with An Optimal Shape Parameter Using Chebyshev Points for Steady Convection-Diffusion Equations	Vancouver, Canada	July 18-22, 2011
21.	K. C. Sivakumar	Generalized inverses and approximation numbers (Invited talk at the International Conference on Combinatorial Matrix Theory and Generalized Inverses of Matrices)	Department of Statistics, Manipal University, Manipal, Karnataka.	Jan 11, 2012
22.	S. Sundar	Refresher Course on Differential Equations,	Ramanujam Institute for Advanced Studies in Mathematics, University of Madras	Nov. 25-26, 2011
23.	M. Thamban Nair	On solving matrix equations	Mangalore University	Aug. 23-24, 2011
24.	M. Thamban Nair	On Nystrom approximation of integral operators	Goa University	Dec. 12-13, 2011
25.	R. Usha	Pre-lens tear film on a contact lens: Model and dynamics	BIFD 2011 Spain	July 21, 2011
26.	R. Usha	Hey Root! Where are you?	Stella Maries College, Chennai	Jan 5, 2012
27.	P. Veeramani	Measure of Non Compactress	Sadakathullah, College, Tirunelveli	Mar. 7, 2012
28.	P. Veeramani	Iterative Methods for finding best proximity solutions	The M.D.T. Hindu College, Tirunelveli	Mar. 21, 2012
29.	T.E. Venkata Balaji	Geometry on a Torus a.k.a. Moduli of Elliptic Curves	IISER, Thiruvanathapuram	Mar. 12, 2012
30.	T.E. Venkata Balaji	Research Science Initiative – Chennai : The Riemann Hypothesis	CCE Studio, IITM	May 2011
31.	V. Vetrivel	Karush-Kuhn-Tucker conditions in nonsmooth programming: Int. Conference on Mathematics in Engg. Buss. Management	Stella Maris College, Chennai	Mar.-9-10, 2012

Visits abroad by faculty:

Sl.No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	A.K.B. Chand	Singapore	Jan 1, 2012	International Conference	CPDA & Institute
2.	A. V. Jayanthan	USA	June 6 – Dec. 20, 2011	Research	DST
3.	S.G. Kamath	Czech Republic	Aug. 7 – 13 2011	Presentation of paper at QTS7	CPDA, IITM
4.	S. Ponnusamy	Malaysia,	Jan-July 2011	Research	University Sains Malaysia
5.	S. Ponnusamy	Finland	July-Oct. 2011	Research	Grant from the University of Turku
6.	S. Ponnusamy	Finland	Nov. –Dec. 2011	Research	Grant from the Universtiy of Aalto
7.	Y.V.S.S. Sanyasiraju	Canada	July 18-22, 2011	deliver a lecture	NBHM / IITM

8.	Satyajit Roy	Atlanta, Georgia, U.S.A.	May 25-28, 2011	Attended, presented paper and chaired a session at the Sixth International Conference on Dynamics Systems and applications	CPDA, IITM
9.	P.V. Subrahmanyam	Fukuoka, Japan	Nov.8 – 11, 2011	To deliver a talk at IPS centre and attended IPS conference	Waseda University
10.	S.Sundar	Fraunhofer ITWM, Kaiserslautern, Germany	Sept. 27 – 30, 2011	Invited talk at the International Workshop on Population Balance Equations	IIT M
11.	M. Thamban Nair	Sun-Yat-sen University Guangzhou (China)	May 20 – June 20, 2011	research collaboration with Dr. Yusesheng Xu Dr. Honqi Yang and Dr. Hui Cao	Sun-Yat-sen University Guangzhou (China)
12.	M. Thamban Nair	Institute of Geology and Geophysics, Beijing	June 2-5, 2011	10ollaborative research under professional visit	Institute of Geology and Geophysics, Beijing
13.	R. Usha	Spain	July 18-21, 2011	delivered a talk at BIFD-2011	CPDA

Honours and Awards obtained by faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
Awards:					
1.	A.V. Jayanthan	Boyscast fellowship	DST	Awarded for conducting advanced research in overseas research institutes	June – Dec. 2011

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/Co-author
Books:				
1.	S. Ponnusamy	Foundations of Mathematical Analysis, 2011	Birkhäuser, Boston	S. Ponnusamy

Journal Editorial Boards:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
1.	Amitava Mukherjee	Associate Editor	Statistical Methodology
2.	P.R. Parthasarathy	Advisory Editor	Journal of Information and Optimization Sciences
3.	P.R. Parthasarathy	Advisory Editor	International Journal of Computer Mathematics
4.	P.R. Parthasarathy	Advisory Editor	American Journal of Mathematics and Management Sciences
5.	P.R. Parthasarathy	Advisory Editor	Journal of Decision and Mathematika Sciences, India
6.	P.R. Parthasarathy	Advisory Editor	Journal of Applied Statistical Sciences, USA
7.	P.R. Parthasarathy	Advisory Editor	Stochastic Modelling and Applications, India
8.	P.R. Parthasarathy	Advisory Editor	Journal of Statistics and Management Systems, India
9.	P.R. Parthasarathy	Member, Editorial Board	International Journal of Modern Mathematics, USA
10.	P.R. Parthasarathy	Member, Editorial Board	Far Eastern Journal of Mathematics, S.Korea
11.	P.R. Parthasarathy	Member, Reviewer Advisory Board	ACM Computing Reviews, USA

12.	S. Ponnusamy	Editor	Journal of Classical Analysis (http://jca.ele-math.com/submission)
13.	P.V. Subrahmanyam	Editor	Journal of Differential Equations and Dynamical Systems
14.	M. Thamban Nair	Editor	Editorial Board of Journal of Mathematical Analysis Illinois Publishing Corporation, Kosovo
15.	R. Usha	Member	Physics of Fluids
16.	R. Usha	Member	Fluid Dynamics Research

4.12.4 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. In lakhs)	Co-ordinators
1.	A Network of Ferromagnetic particles	3 years from 18.7.11	IC & SR	5.00	Dr. Shruti Dubey
2.	Development of theory of fractal rational splines and applications in CAGD	3 years	DST	15.07	Dr. A.K.B. Chand Dr. G. Saravana Kumar (ED)
3.	Classification and Analysis of Nonlinear Control Systems	16 July 2009 – 15 July 2012	IC&SR, IIT Madras	5.00	Dr.A.J.Shaiju
4.	Modeling of microwave passive components for high power applications	2007-2012	National Fusion Program, Institute for Plasma Research	27.00	Dr. S. Sundar
5.	Involution codes : Application to DNA strand design	3 years from 7.2.12	NFSC	5.00	Dr. Kalpana Mahalingam

Exchange programme with other Universities including Institutions/Universities under MOU;

Sl.No	Programme Name	Name of University	Guide Name
1.	DAAD Sandwich Ph.D.	AG Technomathematik T U Kaiserslautern Germany	Prof. S. Sundar
2	DAAD Network Exchange Programme	TU-Kaiserslautern, Germany Other participating Universities are University of Witwatersrand, South Africa and ITB Bandung, Indonesia	Prof. S. Sundar

Faculty members participation with other institution under MoU:

Sl.No	Name of faculty	Participation details	Name of University/Institution which has MoU
1.	Prof. S. Sundar	DAAD Network Exchange Programme	TU Kaiserslautern, Germany (along with University of Witwatersrand, South Africa and ITB Bandung, Indonesia)

Research Publications of the faculty members & research scholars:

a. Total No. of papers published in Refereed National Journals - 01
b. Total No. of papers published in Refereed International Journals - 54
c. Total No. of papers presented in National Conferences - Nil
d. Total No. of papers presented in International conferences - 05

a. In Refereed National Journals:

Sl.No.	Name of the faculty	Title of the paper	Name of the Journal
1.	Arindama Singh	Pi at School	Mathematics News Letter 21 No. 1 (2011) 1-5

b. In Refereed International Journals:

Sl.No	Name of the faculty	Title of the paper	Name of the Journal
1.	R. Balaji	Characterization of P property for some Z-Transformations on positive semi-definite cone	Electronic Journal of Linear Algebra 22, 2011 pp. 1020-1030
2.	S. H. Kulkarni and G. Ramesh	Carrier graph topology	Banach Journal of Mathematical Analysis, (5), 2011, 56 – 69.
3.	S. H. Kulkarni and G. Krishna Kumar	Linear maps preserving pseudo-spectrum and condition spectrum	Banach Journal of Mathematical Analysis (6), 2012, 45 – 60.
4.	S. H. Kulkarni and G. Ramesh	Approximation of Moore-Penrose inverse of a closed operator by a sequence of finite rank outer inverses	Functional Analysis, Approximation and Computation 3:1 (2011), 23–32
5.	S.R. Manam	Multiple integral equations arising in the theory of water waves	Applied Mathematics Letters, 24 (2011) 1369-1373.
6.	S.R. Manam and R. B. Kaligatla	Effect of a submerged vertical barrier on flexural gravity wave	International journal of engineering science, 49 (2011) 755-767.
7.	S.R. Manam and R. B. Kaligatla	A mild-slope model for membrane-coupled gravity waves	Journal of Fluids and Structures, 30 (2012) 173-187.
8.	S.R. Manam	A dual integral equation method for capillary-gravity wave scattering	Journal of Integral Equations and Applications, 24 (2012), No. 1, 81-110.
9.	S.R. Manam and R. B. Kaligatla	Structure-coupled gravity waves past a vertical porous barrier	Proceedings of the Institution of Mechanical Engineers, Part M, Journal of Engineering for the Marine Environment, 2012.
10.	P.R. Parthasarathy A. Sri Ranga	Generating birth and death processes	Stochastic analysis and applications, 29, 185-196, 2011
11.	A. Baricz S. Ponnusamy and M. Vuorinen	Functional inequalities for modified Bessel functions	Expositiones Mathematicae, 29(3) (2011), 399-414.
12.	B. Bhowmik, S. Ponnusamy and K.-J. Wirths	On the Fekete-Szegö problem for concave univalent functions	Journal of Mathematical Analysis and Applications, *373 (2011), 432-438*
13.	Sh. Chen, S. Ponnusamy & X. Wang	Bloch and Landau's theorems for planar p-harmonic mappings	Journal of Mathematical Analysis and Applications, *373 (2011), 102-110*
14.	Sh.Chen, S. Ponnusamy and X. Wang	Coefficient estimates and Landau-Bloch's theorem for planar harmonic mappings	Bulletin of the Malaysian, Mathematical Sciences Soceity 34(2), 2011, 255-265
15.	Sh . Chen, S. Ponnusamy and X. Wang	On planar harmonic Lipschitz and planar harmonic hardy classes	Annales Academiae Scientiarum Fennicae. Series A I. Mathematica, 36(2011), 567-576
16.	Sh.Chen S. Ponnusamy X. Wang	Landau's theorem and Marden constant for harmonic \nu-Bloch mappings.	Bulletin of the Australian Mathematical Society, 84(2011), 19-32
17.	Sh. Chen, S. Ponnusamy and X. Wang	Properties of some classes of Planar harmonic and Planar biharmonic mappings	Complex Analysis and Operator Theory, 5(3)(2011), 901-916
18.	M. Obradović and S. Ponnusamy	A class of univalent functions defined by a differential inequality	Kodai Mathematical Journal, 34(2011), 169-–178
19.	Sh.Chen S. Ponnusamy and X. Wang	Laudan's Theorem for p-harmonic mappings in several complex variables	Ann. Polon. Math. 103 (2011), 67-87
20.	M. Obradović and S. Ponnusamy	Partial sums and radius problem for certain class of conformal mappings	Siberian Mathematical Journal 52(2)(2011), 291-–302
21.	S. Ponnusamy	Starlikeness criteria for certain class of analytic functions	Applied Mathematics Letters 24(2011), 381-386
22.	S. Ponnusamy, A. Vasudevarao and M. Vuorinen	Region of variability for exponentially convex univalent functions	Complex Analysis and Operator Theory, 5(3)2011), 955-966
23.	S. Ponnusamy and K.-J. Wirths	On two extreme point conjectures for concave functions	Russian Mathematics, 55(12)(2011), 44-47

24.	R. Radha and D. Venku Naidu	Generalized Bargmann transform and a group representation	Bull. Sci. Math 135 (2011), 206-214
25.	R. Radha and D. Venku Naidu	Frames in generalized Fock spaces	J. Math. Anal. App., 378 (2011) 140-150
26.	T.V.Sekhar Hema Sundar Raju Y.V.S.S.Sanyasiraju	Higher-Order Compact Scheme for the Incompressible Navier-Stokes Equations in Spherical Goemetry	Communications in Computational Physics, 11 (1), 99 – 113, 2012
27.	Nachiketa Mishra Y.V.S.S.Sanyasiraju	Efficient Exponential Compact Higher Order Difference Scheme for Convection Dominated Problems	Mathematics and Computers in Simulation, 82, 617-628, 2011
28.	Y.V.S.S.Sanyasiraju Nachiketa Mishra	Characteristic Analysis of Exponential Compact Higher Order Schemes for Convection-Diffusion Equations	American Journal of Computational Mathematics, 1(2), 39-54, 2011
29.	Y.V.S.S.Sanyasiraju T.V.S. Sekhar R. Sivakumar K.Subbarayudu	The non-monotonic behavior of forced convective heat transfer under the influence of an external magnetic field	Numerical Heat Transfer, Part A, 59, 459-486, 2011
30.	Y.V.S.S.Sanyasiraju Nachiketa Mishra	Exponential compact higher order scheme for Nonlinear steady convection diffusion equations	Communications in Computational Physics, 9(4), 897-916, 2011
31.	M. Sathiyamoorthy T. Basak and S. Roy	Non-darcy buoyancy flow in a square cavity filled with porous medium for various temperature difference aspect ratios	Journal of Porous Media, (I. F.- 0.707) Vol. 14, pp.649-657, 2011
32.	T. Basak, P. V. K. Pradeep and S. Roy	A Complete Heatline Analysis on Visualization of Heat Flow and Thermal Mixing during Mixed Convection in a Square Cavity with Various Wall Heating	Industrial and Engineering Chemistry Research,(I.F.- 2.072), Vol. 50, pp.7608-7630, 2011.
33.	T. Basak, D. Ramakrishna, S. Roy, A. Matta and I. Pop	A comprehensive heatline based approach for natural convection flows in trapezoidal enclosures: Effect of various walls heating	International Journal of Thermal Sciences (I. F. -1.667) Vol.50, pp.1385-1404, 2011
34.	T. Basak, P. V. K. Pradeep, S. Roy and I. Pop	Finite element based heatline approach to study mixed convection in a porous square cavity with various wall thermal boundary conditions	International Journal of Heat and MassTransfer F. -1.898), Vol. 54, pp.1706-1727, 2011
35.	P. M. Patil, S. Roy and I. Pop	Unsteady effects on mixed convection boundary layer flow from a permeable slender cylinder due to non-linearly power law stretching	Computers and Fluids (I. F.-1.433), Vol. 56, pp.17-23, 2012
36.	P. M. Patil, Ali J. Chamkha and S. Roy	Effects of chemical reaction on mixed convection flow of a polar fluid through a porous medium in presence of internal heat generation	Meccanica (I. F.-1.056), Vol. 47, pp.483-499, 2012
37.	P. M. Patil, S. Roy and I. Pop	Flow and heat transfer over a moving vertical plate in a parallel free stream; Role of internal heat generation or absorption	Chemical Engineering Communications (I. F.-0.913), Vol. 199, pp.658-672, 2012
38.	P. M. Patil, I. Pop, and S. Roy	Unsteady heat and mass transfer over a vertical stretching sheet in a parallel free stream with variable wall temperature and concentration	Numerical Methods for Partial Differential Equations (I.F.-1.427), Vol. 28, pp. 926-941, 2012
39.	K. Singh, S. Roy and T. Basak	Visualization of heat transport during natural convection in a tilted square cavity: Effect of isothermal and non-isothermal heating	Numerical Heat Transfer, Part A (I. F.-1.183), Vol. 61 , pp. 417-441, 2012
40.	Shruti A. Dubey	The method of lines applied to nonlinear nonlocal functional differential equations	Journal of Mathematical Analysis and Applications, Vol.no.376(2011), issue 1, pp. 275-281.
41.	Shruti Agarwal, Gilles Carbou, Stephane Labbe and Christophe Prieur	Control of a network of magnetic ellipsoidal samples	Mathematical Control and Related Field, AIMS, Vol. no. : 1(2011), no. 2, 129-147

42.	Sounaka Mishra	On the Maximum Uniquely Restricted Matching for Bipartite Graphs.	Electronic Notes in Discrete Mathematics 37: 345-350 (2011)
43.	Sounaka Mishra	Complexity of Majority Monopoly and Signed Domination Problems	Journal of Discrete Algorithms,10, (2012), pp. 49-60
44.	Ch. Srinivasa Rao Manoj K. Yadav	Large time behavior of solutions of the inviscid nonplanar Burgers equation	J.Engineering Mathematics, 69, 345—357, 2011
45.	Ch. Srinivasa Rao E. Satyanarayana	Large time asymptotics for Periodic solutions of a generalized Burgers equation with variable viscosity	Studies in applied mathematics, 127, 1-23, 2011
46.	S. Sundar Sudhakar Matle	Axi-symmetric 2D Simulation and numerical heat transfer Characteristics for calibarating furnace in a rectangular enclosure	Applied Mathematical Modelling, 36, NO.3, 879-893, 2012
47.	M. Thamban Nair Ravi Shankar	A generalization of continuous regularized Gauss-Newton method for ill-posed problems	J. Inverse and Ill-Possed Problems, No.3 (2011), 1 -33
48.	M. Thamban Nair	Quadrature based collocation method for integral equations of the first kind	Advances in Computational Mathematics, 36 (2012) 315-329
49.	Braun,R.J.,Usha,R., Mc Fadden,G.B., Driscoll,TA., Cook,L.P., King-Smith,P.E	Thin Film dynamics on a Prolate Ellipsoid with application to the cornea	Journal of Engineering Mathematics, 73, (2012) 121-138. DoI 10.1007/s10665-011-9482-4
50.	Usha,R., Millet, S., BenHadid , H., Rousset , F	Shear-thinning film on a porous substrate :stability analysis of a one-sided model.	Chemical Engineering science, 66,(2011), 5614 –5627
51.	B.Uma and R.usha	Contaminated electrified thin film over a substrate: dynamics and stability	Int J Adv Eng Sci Appl Math DOI 10.1007/s12572-012-0050-6,2012
52.	Eldred, A Anthony, Raj, V. Sankar P. Veeramani	On best proximity pair theorms for relatively u-continuous mappings	Non linear Anal. 74 (2011), No.12, 3870-3875
53.	Gosuru Sankara Raju P.Veeramani	A note on existence and convergence of best proximity points for pointwise cyclic contractions	Numer. Functional Analysis, Optim 32 (2011), No.7, 821-830.
54.	I. Jeyaraman V. Vetrivel	On the Lipschitzian Property in Linear Complementarity Problems over symmetric cones,	Linear Algebra and its Applications, Vol. 435 (2011), 842-851.

c. In Proceedings of National Conferences: Nil

d. In Proceedings of International Conferences:

Sl.No.	Name of the faculty	Title of the paper	Institution	Period
1.	A.K. B. Chand	Natural Bicubic Spline Coalescene Fractal Interpolation Function	Global Science and Technology Fourm	Jan 30-31, 2012
2.	A. V. Jayanthan	Depths and Hilbert coefficients of fiber cones of stretched m-primary ideals	Japan-Vietnam Joint international conference, held at Hanoi, Vietnam.	Dec. 12 – 16, 2011
3.	S.G. Kamath	Reworking the Antonsen – Bormann Idea	QTS7	2012
4.	S.G. Kamath	Reworking the Antonsen – Bormann Idea	FFP11	2012
5.	Ritesh Kumar Dubey, N.Srivastava and S.Sundar	Total Variation Stability bounds on Second Order Schemes for Discontinuous Flow Problems	International Conference on AMOC	2011

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit / Title of talk
1.	Prof.R. Anantharaman Retired Professor SUNY at Westbury & Clark Atlanta Univ. Atlanta, U.S.A.	April 6, 2011	On divergent series of measurable functions
2.	Prof.R. Anantharaman Retired Professor SUNY at Westbury & Clark Atlanta Univ. Atlanta, U.S.A.	April 7, 2011	Trigonometric System is NOT unconditional basis in LP for P 2
3.	Prof.Dipl.-Ing.Dr. Hans-Joerg Bart Lehrstuhl fuer Thermische Verfahrenstechnik T U Kaiserslautern, Germany	April 8, 2011	Population Balances linked with CFD Validation and Visualization
4.	Prof.R.V. Ramamoorthi (Michigan State University & Chennai Mathematical Institute	April 18, 2011	Dirichlet Process-Some variations and applications
5.	Dr. Neela Nataraj Department of Mathematics IIT Delhi	April 12-26, 2011	Lecture Series on Mathematical Theory of FEM
6.	Prof. K.T. Arasu Wright State University (WSU) Dayton, OH 45435, U.S.A.	June 6, 2011	Hadamard Matrices-Overview, Applications and Variations
7.	Prof. M.S. Gowda University of Maryland, U.S.A.	June 7, 2011	Completely positive cones
8.	Prof. Pl. Kannappan University of Waterloo, Canada	June 15, 2011	Application of Functional Equation
9.	Dr.Thierry Boisseaux Attached for Science and Technology Consulate General De France Bangalore	Aug. 2011	collaborative research work on the topic
10.	Dr. Dominique Aymer de la Chevalerie Director French Embassy- SST, New Delhi	Aug. 2011	Collaborative research work
11.	Dr. Manik Poddar ISI Kokata	Dec.9-12,2011	Collaborative research work
12.	Prof. Shreeram S. Abhyankar Marshall Distinguished Prof. of Maths Purdue University, USA	Jan. 3-5, 2012	Invited lecture series on commutative algebra and algebraic geometry and Plane curve singularities and Jacobian Problems
13.	Dr. Uma Balakrishnan Biomedical Postdoctoral Researcher Dept. of Mech. Engg. and Applied Mathematics, Univ of Pennsylvania	Jan.5, 2012	Mutiscale modeling of non-carrier motion with simultaneous adhesion and hydro dynamic interactions in targeted drug delivery
14.	Prof.R.B. Bapat Indian Statistical Institute, Delhi	Jan. 5-8, 2012	Theory of Permanents
15.	Prof. Kistner, University of Bielefeld	Jan 10-17, 2012	Collaborative research work
16.	Prof. M.S. Gowda Dept. of Mathematics and statistics University of Maryland, Baltimore Country USA	Jan 12, 2012	On the Bilinearity rank of a proper cone and Lyapunov-like Transformations
17.	Dr. J. Natesan Integral Risk Manager, NASA Washington DC (USA)	Jan 18, 2012	General Discussion on Reliability and lean six sigma
18.	Prof. Gilles Godefroy University of Paris VI Institute of Mathematics and Jussieu Paris France	Jan 19, 2012	Spaces of Lipschitz functions and their preduals; The free Banach spaces
19.	Prof. Reinhard Illner Department of Mathematics and Statistics	Feb. 3 – 14, 2012	Lecture series on Random evolution in cell biology, From traffic models to flow models to functional differential equations, flocking

	University of Victoria, Canada		and swarming models
20.	Prof. Junzo Watada IPS Centre Waseda Univ. Japan	Feb. 7, 2012	Building Fuzzy stochastic models and some applications
21.	Prof. Dominique Haughton Bentley University, USA & University of Toulouse, France	Mar. 12, 2012	Global Analytics: Three Illustrative Examples
	Dr. Sivananthan Sampath Johann Radon Institute for Computational and Applied Mathematics, Austria	Mar. 30, 2012	Generalized Shannon sampling theorems and function reconstruction from point values

4.12.5 Other Activities of the Department/Centre:

Other activities of the Faculty:

Sl.No	Name of the faculty	Title/Member
1.	P.V. Subrahamanyam	UGC Nominated Member for SAP programme of Pondicherry University
2.	S. Sundar	Nominated as Member of the Review Committee for Integrated Coastal Marine Area Management (ICMAM), Ministry of Earth Science, GOI.
3.	R. Usha	Discussion of a research problem with Prof. Rama Govindarajan, JNCARS, Bangalore, April 8, 2011
4.	S. Sundar	Nominated as Member of the Board of Studies in Faculty of Science and Humanities, Anna University for the period of 3 years upto 2.3.2015.

Seminar Talk:

Sl.No	Name of the Faculty	Title	Date
1.	Dr. Antony Vijesh I.I.T. Indore	Solutions of a functional Integral Equation via iteration	April 1, 2011
2.	Dr. Sridhar Krishnan Visiting Professor Department of Elec. Engg. IIT Madras Professor and Canada Research Chair in Biomedical Signal Analysis Ryerson Univ., Toronto, Canada	Instantaneous Signal Features Extract in and their Applications in Non-stationary Biomedical Signals	April 7, 2011
3.	Dr. P.N. Natarajan Visiting Associate Professor Department of Mathematics, IIT Madras	Introduction to p-adic Analysis	July 8,11,12 & 13, 2011
4.	Dr. P.N. Natarajan Visiting Associate Professor Department of Mathematics, IIT Madras	Weighted Means	July 21, 2011
5.	Dr. M.N.N. Namboodiri Department of Mathematics Cochin University of Science and Tech., Kochi-682 022	Distribution of Eigen Values Large Matrices-Szego-type	July 11, 2011
6.	Dr. Arun D Mahindrakar Department of Electrical Engg. IIT Madras	Challenges in Mathematical Control Theory	July 28, 2011
7.	Dr. Saravana Kumar Dept. Of Engineering Design, I.I.T. Madras	Fractal Tool Paths for Layered Manufacturing	Aug 4, 2011
8.	Prof. N. Sivakumar Department of Mathematics Texas A & M University U.S.A.	Sampling and recovery of bandlimited functions via spline and Gaussian interpolation	Aug.11, 2011
9.	Dr. Andrew Thangaraj Dept. of Electrical Engg.,I.I.T. Madras	Codes on Ramanujan Graphs	Aug.18, 2011
10.	Dr. R.K. Amit Dept. Of Management Studies IIT Madras	Aspects of Exchangeability in the Shapley value	Aug.27, 2011
11.	Dr. Saravanakumar Dept. Of Engineering Design, IIT Madras	Fractal Tool Paths for Layered Manufacturing	Aug. 4, 2011
12.	Dr. Andrew Thangaraj Dept. of Electrical Engg., IIT Madras	Codes on Ramanujan Graphs	Aug. 18, 2011

13.	Dr. R.K. Amit Dept. Of Management Studies IIT Madras	Aspects of Exchangeability in the Shapley value	Aug. 27, 2011
14.	Prof. K. Srinivas Institute of Mathematical Science Chennai	On Hardy's Theorm for Riemann Zeta Function	Sept. 1, 2011
15.	Dr. B. Nageswara Rao Associate Professor Dept. of CE, IIT Madras	Coupled Meshfree-fractal Finite Element Method for Fracture Mechanics and Unbounded Domain Problems	Sept. 8, 2011
16.	Dr. Arvind Pattamatta Assistant Professor Dept. of Mech. Engg. IIT Madras	Lattice Boltzmann Method for the Simulation of Heat Transport in Nanofluids	Sept. 15, 2011
17.	Dr. K. Arul Prakash Assistant Professor Dept. of Applied Mechanics IIT Madras	ASUPG Based Finite Element Approach for Fluid Flow and Heat Transfer Applications	Sept. 22, 2011
18.	Prof. Frisco Pierluigi School of Mathematical and Computer Sciences, Heriot-watt University, Edinburgh	Network models are algorithm to generate networks	Oct.7, 2011
19.	Dr. Krishna Hanumanthu Assistant Professor Chennai Mathematical Institute Chennai	Syzygies and geometry of projective varieties	Oct 13, 2011
20.	Dr. Mahender Singh Institute of Mathematical Science Taramani, Chennai	Various Guises of the Borsuk-Ulam Theorm	Oct. 20, 2011
21.	Dr. Sudarshan Tiwari Dept. of Mathematics T.U. Kaiserslautern, Germany	Simulation of Moving Liquid Drop inside a Gas of Continuum to Rarefied Regimess	Oct. 27, 2011
22.	Dr.Sreelakshmi Krishnamoorthy Institute of Mathematical Science Chennai	Modular degrees of modular abelian varieties	Nov. 3, 2011
23.	Prof. Prabhu Manyem Dept. of Mathematics Shanghai University China	ESO Universal and LFP Logics: Separation between machine level and structure level	Feb. 6, 2012
24.	Prof.R. Ramanujam IMSc. Taramani	Exploring Compositional structure in Strategies in Games	Feb. 16, 2012
25.	Dr. C.V. Krishnamurthy Associate Professor Dept. of Physics, IIT Madras	Non-Fourier Heat Conduction	Feb. 23, 2012
26.	Dr. Amitava Mukherjee Assistant Professor Dept. of Mathamatics, IIT M	Non –parametric joint monitoring of location and scale of a process distribution in a single robust control chart at phase II	Mar. 1, 2012
27.	Dr. Kunal Mukherjee Institute of Mathematical Sciences Taramani, Chennai 113	MASA(s) in finite von Neumann Algebras and their associated bimodules	Mar. 8, 2012
28.	Dr. S. Lavanya Institute of Mathematical Sciences Taramani, Chennai 113	Complexity of Networks – a quantitative approach	Mar. 15, 2012
29.	Dr. Anita Das Indian Institute of Science, Bangalore	Rainbow Coloring of Graphs	Mar. 22, 2012
30.	Prof. Pramath Sastry Chennai Mathematical Institute, Chennai	The Fundamental group, the galoic group and the monodromy group	Mar. 29, 2012

Ph.D. Viva – Voce Examination

Sl.No	Name of the Scholar	Title of the thesis	Date of Viva
1.	Mr. Nachiketa Mishra	Development and Analysis of Exponential Compact Higher Order Schemes	June 27, 2011
2.	Mr. I. Jeyaraman	Linear Complementarity Problems over Symmetric Cones	July 11, 2011

3.	Mr. K.P. Deepesh	A Study on Approximation Numbers of Operators	July 11, 2011
4.	Mr. E. Satyanarayana	Solutions of some generalized Burgers Equations	2011
5.	Mr.Sudhakar Matle	A Numerical Heat Transfer Modeling Study on the Isothermal Spherical Cavity with Uniform Block Heating	Sept. 10, 2011
6.	Mr. Ramakrishna Nanduri	On certain Homological Properties of Fiber Cone	Nov. 8, 2011
7.	Mrs. R. Indhumathi	Embedded High-balanced Trees into Hypercubes	Nov. 18, 2011

Ph.D. Seminar Talk

Sl. No	Name of the scholar	Title	Date
1.	Mrs.R. Indhumathi MA04D008	Embedding Height-Balanced Trees in Hypercube	April 6, 2011
2.	Mr. Debashisha Mishra MA07D003	Least Elements of Polyhedral Sets and Nonnegative Generalized Inverses	Aug 30, 2011
3.	Mr. G. Sankararaju Kosuru, MA07D004	On Existence of Best Proximity Points and Generalized equilibrium for constrained games	Jan 9, 2012
4.	Mr. M. Rajesh Kannan MA08D007	Generalized inverse positivity of interval matrices	Feb. 22, 2012

Socially relevant activities carried out by the Department:

The Department of Mathematics and AG Technomathematik, Technische Universitaet Kaiserslautern, Germany have mutually agreed to set up a network in the scientific area of Applied Mathematics and Mathematical Modelling. This will enable intensive collaboration between IIT Madras and TU-Kaiserslatern in terms of Annual Workshops, Faculty / Student Exchange and Joint Modelling Seminars.

The department organized a “One Day National Symposium on Mathematical Methods and Applications” on 22nd December, 2011 the day of the birth anniversary of Sri Srinivasa Ramanujan, the great Indian Mathematician. The day’s events were inaugurated by Prof. Bhaskar Ramamurti, Director, Indian Institute of Technology Madras, Chennai.

There were five invited lectures delivered by:

- Prof. Gadadhar Mishra, Dept. of Mathematics, IISc. Bangalore
- Prof. K.N. Raghavan, Inst. of Math. Sciences (IMSc), Bangalore
- Prof.G. Ravindra, Former Director, NCERT, Delhi
- Prof. R. Usha, IIT Madras, Chennai
- Prof. Min Xie, Chair Prof. Dept. of Systems Engg. and Engg. Mgt. City Univ. of Hong Kong

In the afternoon, parallel sessions were held on:

- Analysis and Topology; Algebra; Discrete Mathematics;
- Applied Mathematics I (Differential Equations and related topics)
- Mathematics of Non-deterministic Phenomena and other topics and
- Applied Mathematics – II (Mathematical Models)

The Valedictory function was presided over by Prof. S. H. Kulkarni, Head, Department of Mathematics and valedictory address was delivered by Prof. Ajit Kumar Kolar, Chairman, Centre for Continuing Education. Prof. Y.V.S.S. Sanyasi Raju was coordinated the Symposium.

International collaboration achievements by the Department - NIL

1. Faculty visit

Sl.No	Name of the Faculty Member	Purpose of Visit	Date & Venue
1.	A. V. Jayanthan	Research	June 6 – Dec. 20, 2011 - USA
2.	S. Ponnusamy	Visiting Faulty	July 1 – Jan. 31, 2012 – Univ. of Turku, Finland
3.	S. Ponnusamy	Research	Jan - July 2011 - Malaysia